

Breast Cancer Screening Among California Women Ages 40 and Above, 1997-2002

Kirsten Knutson, MPH, Aldona Herrndorf, MPH, Farzaneh Tabnak, PhD,
Georjean Stoodt, MD, MPH,
California Department of Health Services (CDHS), Cancer Detection Section (CDS)

CHAPTER 15

Breast cancer is the most commonly diagnosed cancer and the second leading cause of deaths due to cancer, after lung cancer, among California women.¹ In 2004, an estimated 22,415 women living in California are expected to be diagnosed with breast cancer, and 4,195 women are expected to die from breast cancer.² However, since 1988, the rate of newly diagnosed breast cancer cases in California has remained fairly stable, and the breast cancer mortality rate has decreased by 24 percent.³

Routine breast cancer screening is an important preventive health activity for women. If breast cancer is discovered at an early stage when it is most treatable, before it has grown and invaded tissues outside of the breast, a woman has more than a 95 percent chance of surviving the next five years.⁴ In fact, an increase in the number of women obtaining breast cancer screening services has resulted in more breast cancers being diagnosed at an early stage, which has contributed to the recent decline in mortality.

The California Department of Health Services (CDHS) and the American Cancer Society recommend that women ages 40 years and above receive an annual mammogram and clinical breast examination (CBE).

Some women ages 40 years and above may be unaware of the importance of having both a CBE and a mammogram - a complete screening - every year as part of a routine breast cancer screening regimen. Mammography is not 100 percent sensitive, but it is the current standard test used to screen for breast cancer. Though a mammogram can detect a breast cancer that cannot be felt, a health professional conducting a CBE may feel a breast mass that is not

seen on a mammogram. Therefore, receiving both exams annually is a woman's best strategy to detect breast cancer at an early, most treatable stage.⁵

Although screening rates have greatly improved since the late 1980s, many women are still not receiving complete breast cancer screening services annually. Some women may be unable to access screening services because they are uninsured, have health insurance that does not cover breast cancer screening services, or cannot afford health insurance co-pays or deductibles. This report describes breast cancer screening among women ages 40 years and above by various demographic characteristics, such as health insurance status, based on women's responses to the California Women's Health Survey (CWHs) questions.

Methods

Since 1997, CDHS' Cancer Detection Section (CDS) has sponsored questions related to breast cancer screening on CWHs. Each year from 1997 to 2002, women were asked if they ever had a mammogram and/or a CBE and how long it had been since they had their last screening. (See appendix for exact question wording.)

Analysis was performed by year and cumulatively for years 1997 through 2002. For cumulative analysis, multiple years of data were aggregated to obtain precise estimates of screening prevalence rates among demographic groups with small numbers of respondents. Table 15-1 shows numbers of respondents to survey questions.

All analyses included women who reported having been previously diagnosed with breast cancer (an annual average of 4.7 percent of women ages 40 years and above). Women who responded “don’t know” or who refused to answer a question were excluded. Interviews in 2002 that were partially completed were also excluded from analyses to avoid introducing bias. Women who reported having their last mammogram and their last CBE within the past year were identified as having a “complete screening” within the past year. The racial/ethnic group “Other” includes non-Hispanic women who reported any race/ethnicity other than White, Black/African American, or Asian/Pacific Islander. Screening rates among women of Other race/ethnicity are not presented in the figures due to the small number of respondents. Analysis by poverty status compares screening rates among women living at or below 200 percent of the federal poverty level (FPL) to rates among women living above 200 percent FPL. (The annual FPL is a measure of poverty specified by the U.S. Department of Health and Human Services that is adjusted according to annual household income and household size. For example, in 2002, two family members who resided in the same house or apartment and had an annual gross household [combined] income of \$23,880 were considered to be living at 200 percent FPL.⁶)

Reported percentages are weighted estimates adjusted to California’s 1990 Census population by age and race/ethnicity. Confidence intervals were calculated at the alpha 0.05 level. The coefficient of variation (CV) was computed to assess the reliability of the estimated prevalence points. Proportions with a CV greater than 0.23 were considered unreliable. To test for trend, a least squares model was used (to regress proportion on year over the six-year time period). A p-value of less than 0.05 indicated a statistically significant trend.

Results

Breast Cancer Screening Trends

Prevalence estimates produced from CWHHS data indicate that, in general, breast cancer screening among California women ages 40 years and above remained fairly stable over the time period 1997 to 2002 (shown in Figure 15-1). The proportion of women who reported having a CBE within the past year did not change significantly during this time period ($p < 0.064$). Though the increase over time in the proportion of women who

had a mammogram within the past year was slight, the trend was statistically significant ($p < 0.032$). There was no significant change in the proportion of women who obtained complete screenings (both a mammogram and a CBE) within the past year ($p < 0.053$).

In 2002, 67.5 percent of California women ages 40 years and above reported having a CBE within the past year, 63.2 percent reported having a mammogram within the past year, and 53.7 percent reported having a complete screening within the past year.

Though it is estimated that nationally more than one out of every three women still do not receive an annual mammogram,

California has already surpassed the Healthy People 2010 objective of 70 percent of women ages 40 years and above receiving a mammogram within the past two years (Figure 15-2). In 2002, 79.3 percent of California women ages 40 years and above reported having their last mammogram within the past two years.

Breast Cancer Screening, 1997-2002

According to cumulative 1997 through 2002 CWHHS data, breast cancer screening rates among women ages 40 years and above differed with respect to a woman’s race/ethnicity, age, poverty status, and health insurance status (presented in Table 15-2).

Efforts promoting annual complete breast cancer screening (both a mammogram and a clinical breast exam (CBE) should focus on women with low reported screening rates: uninsured women, women living at or below 200 percent federal poverty level (FPL), and Hispanic and Asian/Pacific Islander women.

Aggregated data analysis indicate that, on average during 1997 through 2002, Hispanic and Asian/Pacific Islander women were less likely to receive breast cancer screening services than Black/African American and White women. As presented in Table 15-2, 42.6 percent of Hispanic women and 40.5 percent of Asian/Pacific Islander women reported having a complete screening within the past year, compared with 54.7 percent of Black/African American women, 53.3 percent of White women, and 51.7 percent of Other women.

Also shown in Table 15-2, women ages 50 years and above were more likely than women ages 40 to 49 years to report having a mammogram within the past year. Older women (65 years and above), however, were less likely to obtain a CBE within the past year than women ages 40 to 64 years.

As illustrated in Figure 15-3, the relationship seen between breast cancer screening services and age group was also observed among each racial/ethnic group. Regardless of race/ethnicity, women ages 50 years and above were more likely than younger women to report having a mammogram within the past year. But when comparing mammography use among women ages 50 and above of different racial/ethnic groups, Asian/Pacific Islander women ages 65 years and above had the lowest rate of mammography within the past year (57.2 percent), and Black/African American women ages 50 to 64 years had the highest rate of mammography within the past year (72.6 percent). Among younger women (40 to 49 years), fewer Hispanic women reported having a mammogram within the past year (43.4 percent) than did women of other racial/ethnic groups. Though not shown, Asian/Pacific Islander women ages 65 years and above reported a notably lower rate of CBE use within the past year (43.7 percent), compared to Hispanic (51.6 percent), White (63.3 percent), and Black/African American (64.7 percent) women 65 years and above.

CWHS data suggest that poverty status may influence breast cancer screening among women. Table 15-2 demonstrates that women living at or below 200 percent FPL were less likely to receive a mammogram within the past year, and much less likely to receive an annual CBE, than higher income women. Only 39.2 percent of women living at or below 200 percent FPL reported having a complete screening within the past

year, compared with 54.9 percent of women living above 200 percent FPL.

Despite their low-income status as a group relative to other racial/ethnic groups, mammography use among Black/African American women living at or below 200 percent FPL remained high (60.4 percent) compared with White (52.8 percent), Hispanic (48.5 percent), and Asian/Pacific Islander (51.2 percent) women of the same poverty status (Figure 15-4). A similar relationship with regard to CBE use among women by poverty status and racial/ethnic group was observed in the data (not shown).

Table 15-2 shows that, in general, the more stable a woman's health insurance status, the more likely she was to receive an annual breast cancer screening. Only 22.6 percent of women with no health insurance reported having a complete screening within the past year, compared with 34.6 percent of women who were insured at the time of interview but experienced a lapse in their coverage during the prior year, and 53.9 percent of women with some type of continuous health insurance.

Screening by health insurance status varied more among some racial/ethnic groups than others. Uninsured White women reported the lowest use of mammography within the past year (24.6 percent), compared with uninsured Black/African American (45.0 percent) and Hispanic (33.4 percent) women (Figure 15-5). Though not shown, uninsured White women were also less likely to report receiving a CBE within the past year (34 percent), relative to uninsured Black/African American (43.2 percent) and Hispanic (39.3 percent) women. (Prevalence rates of breast cancer screening among uninsured Asian/Pacific Islander women are unreliable [CV= 0.51] due to the small number of respondents and are not presented.)

Discussion

Breast cancer screening among California women ages 40 years and above, as represented by CWHS respondents (women who have a home telephone, speak English or Spanish, and are not institutionalized), remained fairly stable during the years 1997 through 2002. In 2002, approximately two-thirds of all California women ages 40 years and above had either a mammogram or a CBE within the past year.

California has surpassed the Healthy People 2010 objective that 70 percent of all women ages 40 years and above receive a mammogram within the past two years; in 2002, 79.3 percent of California women 40 years and above had a mammogram within the past two years.

However, this report found that some groups of women are not receiving services that can detect breast cancer at an early, more treatable stage. During 1997 through 2002, fewer Hispanic and Asian/Pacific Islander women obtained mammograms and CBEs within the past year than did White and Black/African American women. Only 39 percent of women living at or below 200 percent FPL and a mere 23 percent of uninsured women had a complete breast cancer screening - both a mammogram and a CBE - within the past year.

These results provide information that public health

professionals can use to promote and provide breast cancer screening services to targeted populations. As well as educating women about the benefits of routine breast cancer screening, messages promoting screening should emphasize that having a complete breast cancer screening every year is the most effective method of detecting breast cancer.

Though annual breast cancer screening should be encouraged for all California women, outreach efforts should focus on groups of women with low reported screening rates. Many low-income and uninsured women may be eligible for CDHS' *Cancer Detection Programs: Every Woman Counts (CDP:EWC)* free services. Health professionals should encourage all low-income women ages 40 years and above who are uninsured or have limited health insurance coverage to call *CDP:EWC* at (800) 511-2300 to qualify for free breast cancer screening and diagnostic services.

Table 15-1:

**Number of respondents, ages 40 years and above, to California Women's Health Survey
breast cancer screening questions, by year and cumulative years 1997-2002^a**

	Mammogram N	Clinical Breast Exam N	Complete Screening N
Analysis by Year			
1997	2,327	2,324	2,320
1998	2,135	2,134	2,128
1999	2,343	2,336	2,336
2000	2,270	2,269	2,267
2001	2,259	2,254	2,252
2002	2,381	2,377	2,375
Cumulative analysis (CWSHS 1997-2002 combined)			
	Mammogram N	Clinical Breast Exam N	Complete Screening N
All Women Ages 40+	13,715	13,694	13,678
Race/Ethnicity			
White	9,996	9,975	9,966
Black/African American	726	728	726
Hispanic	2,191	2,189	2,184
Asian/Pacific Islander	638	638	638
Other	164	164	164
Age			
40-49	5,132	5,133	5,129
50-64	4,937	4,934	4,931
65+	3,646	3,627	3,618
Poverty			
> 200% FPL ^b	9,472	9,461	9,455
<= 200% FPL	3,056	3,051	3,042
Unknown	1,187	1,182	1,181
Health Insurance^c			
Yes	12,166	12,143	12,131
Yes, with gaps ^d	438	439	438
No	1,108	1,109	1,106

a Numbers include all respondents ages 40 years and above who were included in the analysis of breast cancer screening questions (women who completed the interview and answered "yes," "no," or provided an answer to the screening questions other than "don't know" or "refused").

b "FPL" refers to the federal poverty level.

c Numbers in the Health Insurance column do not total to All Women Ages 40+ because three respondents who answered "don't know" were excluded from analysis.

d Respondents reported being insured at time of interview, but had a lapse in coverage during the past year.

Source: California Women's Health Survey (CWSHS)

Table 15-2:

**Breast cancer screening within the past year among women ages 40 years and above,
California 1997-2002^a**

	Had CBE Within the Past Year (Percent)	Had Mammogram Within the Past Year (Percent)	Had Complete Screening (CBE and Mammogram) Within the Past Year (Percent)
All Women Ages 40+	64.7	60.2	50.8
Race/Ethnicity			
White	67.1	61.9	53.3
Black/African American	70.5	63.6	54.7
Hispanic	55.4	53.7	42.6
Asian/Pacific Islander	56.1	55.8	40.5
Other	62.4	53.4	51.7
Age			
40-49	65.6	48.0	42.7
50-64	67.2	66.6	58.0
65+	61.3	66.4	52.1
Poverty			
> 200% FPL ^b	69.8	62.8	54.9
<= 200% FPL	51.5	51.8	39.2
Unknown	62.9	63.9	52.2
Health Insurance^c			
Yes	67.6	63.7	53.9
Yes, with gaps in the past 12 months	54.2	41.4	34.6
No	36.2	28.4	22.6

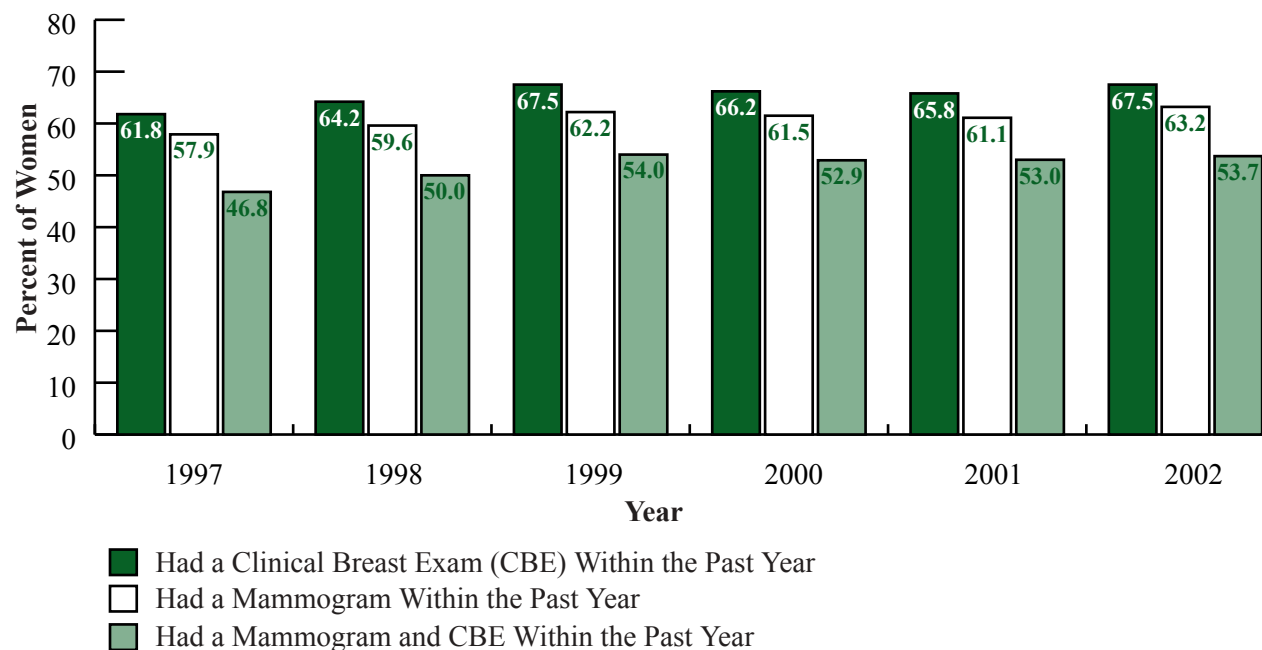
All percentages are weighted. Women who responded “don’t know” or refused to answer breast cancer screening questions were excluded.

- a Percentages of breast cancer screening presented in this table are not comparable to other percentages presented in this report by year; this table presents results of the analysis of six years (1997 through 2002) of aggregated CWHHS data. Data was combined to increase the number of respondents in some demographic groups in order to increase the precision of the reported statistics.
- b “FPL” refers to the federal poverty level.
- c Three observations with a health insurance status of “don’t know” were excluded from analysis.

Source: California Women’s Health Survey (CWHHS)

Figure 15-1:

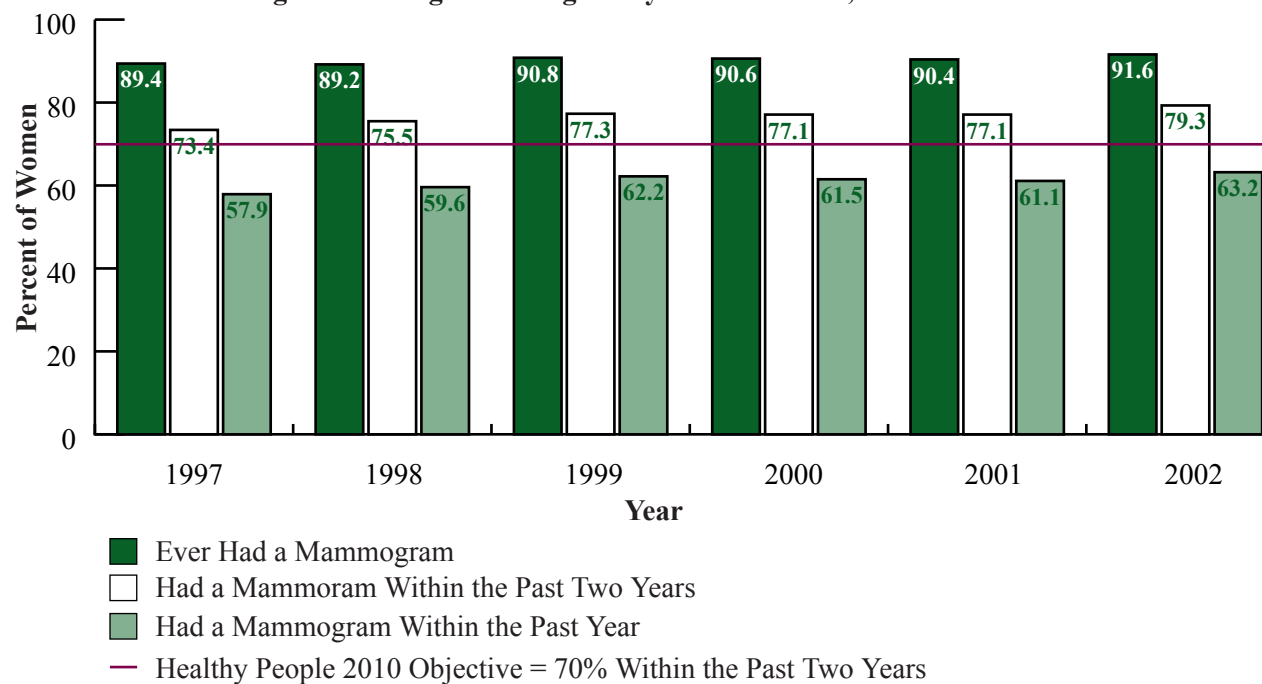
Breast cancer screening among women ages 40 years and above, California 1997-2002



Source: California Women's Health Survey (CWHS)

Figure 15-2:

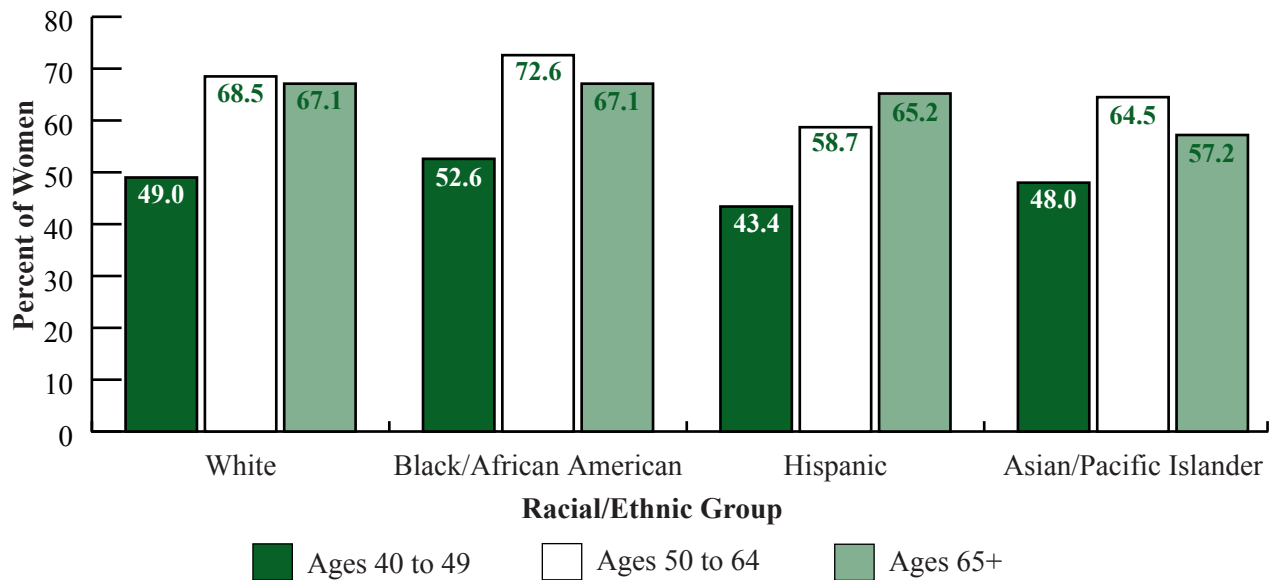
Mammograms among women ages 40 years and above, California 1997-2002



Source: California Women's Health Survey (CWHS)

Figure 15-3:

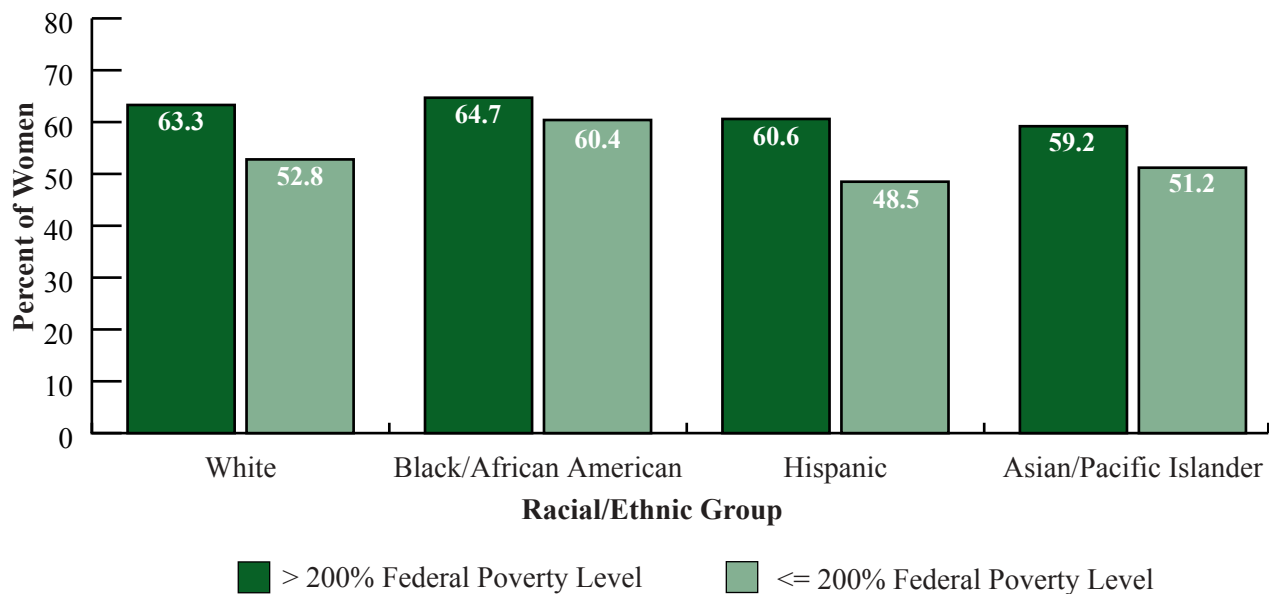
Women ages 40 years and above who had a mammogram within the past year, by race/ethnicity and age, California 1997-2002



Source: California Women's Health Survey (CWHS)

Figure 15-4:

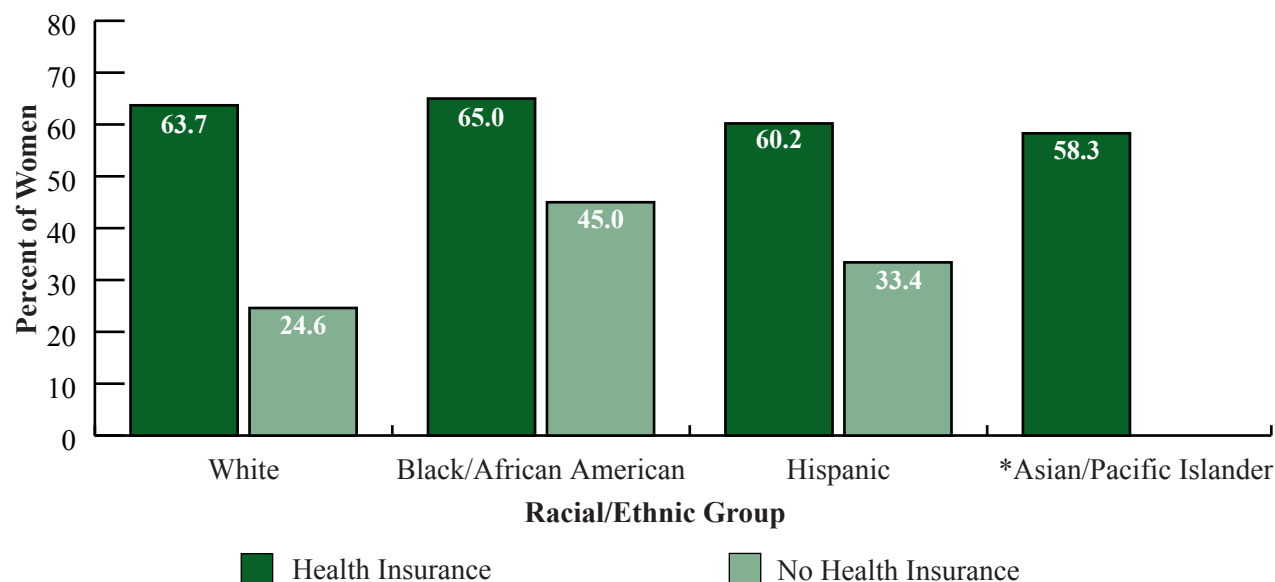
Women ages 40 years and above who had a mammogram within the past year, by race/ethnicity and poverty status, California 1997-2002



Source: California Women's Health Survey (CWHS)

Figure 15-5:

Women ages 40 years and above who had a mammogram within the past year, by race/ethnicity and health insurance status, California 1997-2002



* Estimates for Asian/Pacific Islander women with no health insurance are not reliable due to small sample size so they are not presented.

Source: California Women's Health Survey (CWHs)

Endnotes

1. American Cancer Society, California Division and Public Health Institute, California Cancer Registry. California Cancer Facts and Figures, 2004. Oakland, CA: American Cancer Society, California Division, September 2003.
2. Ibid.
3. Ibid.
4. Reis et al., Surveillance, Epidemiology, and End Results Cancer Statistics Review, 1975-2001. National Cancer Institute. Bethesda, MD. 2004. Available at: http://seer.cancer.gov/csr/1975_2001/, 2004. Accessed October 2004.
5. Breast cancer: early detection. American Cancer Society. August 22, 2000. Available at: <http://www.cancer.org/cid/6114.00/index.htm>. Accessed August 2001.
6. The 2002 Health and Human Services poverty guidelines: one version of the [U.S.] federal poverty measure. U.S Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation. May 3, 2004. Available at: <http://aspe.hhs.gov/poverty/02poverty.htm>. Accessed November 2004.